

# Conference Schedule

## Clients' Day—Monday, October 5, 2009

### Special Session—Conservation Policy Challenges and Perspectives

Time: 9:00 AM–12:00 PM

Location: Humphreys

#### Guest Speakers

- Bud C. Cribley, Deputy Assistant Director, Renewable Resources and Planning, Bureau of Land Management
- John Fitzgerald, Policy Director, North America, Society for Conservation Biology
- John Freemuth, Boise State University, Departments of Political Science and Public Policy and Administration
- Suzette M. Kimball, Acting Director, U.S. Geological Survey
- Kieran Suckling, Director, Center for Biological Diversity

### Special Session—Colorado Plateau, Rocky Mountain, Desert Southwest Cooperative Ecosystem Studies Units Joint Meeting

Time: 8:00 AM–12:00 PM

Location: Doyle/Rees

### SCB Chapter Lunch Workshop

Time: 12:00–1:30 PM

Location: Ponderosa Board Room

### Problem-Solving Session—Collaborative Conservation

Time: 1:30–4:30 PM

Location: O'Leary, Drury Inn (Room 133)

### Problem-Solving Session—Energy Development and Conservation

Time: 1:30–4:30 PM

Location: Humphreys

### Problem-Solving Session—Connectivity

Time: 1:30–4:30 PM

Location: Ponderosa Board Room

### Problem-Solving Session—Climate Change and Water

Time: 1:30–4:30 PM

Location: Elden Board Room, Drury Inn (Room 137)

### Breakout Meeting—CESUs

Time: 1:30–4:30 PM

Location: Doyle (Colorado Plateau CESU), Rees (Rocky Mountain CESU), and Freemont (Desert Southwest CESU)

### Breakout Meeting—USGS-NAU Climate Change Workshop

Time: 1:30–4:30 PM

Location: McMillan, Drury Inn (Room 126)

## GUEST SPEAKER: PAUL EHRLICH

**Monday, October 5, 2009— 5:30pm**

### Prochnow Auditorium, Northern Arizona University

### Book Signing to Follow Presentation

*BBQ and social to follow Paul Ehrlich presentation at the North Union (the building connected to Prochnow Auditorium)*

## Tuesday, October 6, 2009—Morning Sessions

### Conserving Connectivity in Changing Landscapes

#### Part I: Studying and modeling wildlife movement and ecological connectivity

Location: Humphreys

Moderators: Allison Jones, Wild Utah Project

|                |  |
|----------------|--|
| 8:00–8:20 AM   | JODY HILTY – Wildlife Conservation Society: conserving extensive connectivity in contested landscapes  |
| 8:20–8:40 AM   | PAUL BEIER, Graves – An overview of science-based approaches to wildlife link ages design  |
| 8:40–9:00 AM   | ALLISON JONES, W. Bates – Least cost path modeling for lynx in the middle Rockies  |
| 9:00–9:20 AM   | KEVIN CROOKS, J. Tracey, S. VandeWoude – Agent-based movement models to assess functional connectivity and disease transmission in fragmented landscapes |
| 9:20–9:40 AM   | DAVE THEOBALD – Incorporating land use change into landscape connectivity: an assessment of US natural landscapes from 1992 to 2030                      |
| 9:40–10:00 AM  | DAN MAJKA – ArcGIS tools for designing least-cost linkages for multiple focal species  |
| 10:00–10:20 AM | Break  |

### Conservation and Aquatic Systems

Location: Doyle

Moderator: To be determined

|               |  |
|---------------|--|
| 8:00–8:20 AM  | DANIEL DAUWALTER, J. Sanderson, J. Williams, J. Sedell – Establishing a framework for multi-species fish conservation on mid-sized streams of the Upper Colorado River basin |
| 8:20–8:40 AM  | STACY STUMPF, S. Monroe, L. Thomas – Design and implementation of long-term monitoring of aquatic macroinvertebrates in National Parks on the Colorado Plateau               |
| 8:40–9:00 AM  | DALE TURNER – Priorities for biodiversity conservation in the Verde River watershed  |
| 9:00–9:20 AM  | MARK McKINSTRY – Recovering endangered fish in the San Juan River using adaptive management  |
| 9:20–9:40 AM  | PATRICIA WEST, S. Viglucci, D. Smith, W. Auberle – Valuing the Verde River: community input for decisionmaking   |
| 9:40–10:20 AM | Break  |

## Tuesday, October 6, 2009—Morning Sessions (cont.)

### Vegetation Conservation

Location: Fremont

Moderator: To be determined

|                |  |
|----------------|--|
| 8:00–8:20 AM   | JAMES FOWLER, C. Hull Sieg – Population ecology of two alpine endemics: <i>Packera franciscana</i> and <i>Erigeron mancus</i>  |
| 8:20–8:40 AM   | JUDITH SPRINGER, S. Abella, T. Dekoker – A survey of monitoring and management activities for conserving rare plants in national parks and protected areas, Arizona and Nevada |
| 8:40–9:00 AM   | CHRISTINE ALBANO, B. Dickson, E. Aumack – Landscape-scale predictors of cheatgrass invasion across the lower elevations of the Kaibab Plateau in northern Arizona              |
| 9:00–9:20 AM   | SCOTT HOFFMAN, M. Brunson, J. Belnap – A preliminary investigation of dust production and associated vegetation impacts on the Colorado Plateau                                |
| 9:20–9:40 AM   | SCOTT ABELLA, C. Denton – Variation in reference conditions among terrestrial ecosystem survey units on a northern Arizona landscape   |
| 9:40–10:00 AM  | LEVI JAMINSON, N. Arment, C. Tate – Distribution and expansion of <i>Diorhabda elongate</i> across the Colorado Plateau  |
| 10:00–10:20 AM | Break  |

### Conserving Connectivity in Changing Landscapes

#### Part I: Studying and modeling wildlife movement and ecological connectivity (cont.)

Location: Humphreys

Moderators: Allison Jones, Wild Utah Project

|                   |   |
|-------------------|---|
| 10:20–10:40 AM    | BRAD McRAE, B. Dickson, V. Shah – Using circuit theory to prioritize habitats for connectivity conservation                                     |
| 10:40–11:00 AM    | HEALY HAMILTON, P. Coppolillo – Projecting climate change impacts on species distributions in the West in support of connectivity conservation  |
| 11:00–11:20 AM    | BRIAN BROST, P. Beier – Conserving the stage, not the actors: using land facets to conserve connectivity in a changing climate                  |
| 11:20–11:40 AM    | GARY TABOR – Connectivity conservation and climate adaptation: large landscape lessons from Yellowstone to Yukon Conservation Initiative        |
| 11:40 AM–12:00 PM | ROBERT F. BALDWIN, R. Perkl, S. Trombulak – Ecoregional landscape networks: connectivity for species most sensitive to landscape transformation |
| 12:00–12:20 PM    | Part I Discussion   |
| 12:20–1:30 PM     | Lunch   |

## Tuesday, October 6, 2009—Morning Sessions (cont.)

### Ecology of Aquatic Systems

Location: Doyle

Moderator: To be determined

|                   |   |
|-------------------|---|
| 10:20–10:40 AM    | ANGELA MOLINE, N. L. Poff, D. Theobald – The relationship between stream-flow and aquatic insect communities in small, unregulated Colorado Plateau streams                                   |
| 10:40–11:00 AM    | ERIN MURCHIE, S. McNaught, J. Granet, M. Anderson – Spatial distribution of <i>E. Coli</i> and environmental factors influencing its abundance in a freshwater desert beach recreational area |
| 11:00–11:20 AM    | MICHELLE HAAS, M. Anderson, C. Hackbarth, C. Hughes – Preventing zebra and quagga mussels in Lake Powell  |
| 11:20–11:40 AM    | MARK ANDERSON, E. Murchie, C. Hackbarth, C. Hughes – Protecting public health at Lake Powell  |
| 11:40 AM–12:00 PM | BRYAN HAMILTON – Groundwater withdrawal: how will it affect small mammals?  |
| 12:00–12:20 PM    | ADINA MERENLENDER, M. Dietch, T.E. Grantham, S. Feirer – An integrated landscape model for upland stream-flow recovery and improved water security  |
| 12:20–12:40 PM    | STACEY, PETER, Allison L. Jones, and Jim C. Catlin – Development of a region-wide database for RSRA surveys of the functional condition of southwestern stream and riparian areas             |
| 12:40–1:30 PM     | Lunch   |

### Forest Ecosystem Dynamics

Location: Fremont

Moderator: To be determined

|                   |  |
|-------------------|--|
| 10:20–10:40 AM    | VALERIE KURTH, S. Hart, P. Fule, J. Kaye – Nitrogen dynamics along a 33-year stand-replacing wildfire chronosequence in Southwestern Ponderosa Pine Forests            |
| 10:40–11:00 AM    | PETER FULE, J. Korb, R. Wu – Changes in forest structure of a dry mixed conifer forest in the Southwestern Colorado, USA   |
| 11:00–11:20 AM    | CHRISTOPHER McGLONE, T. Kolb, C. Sieg, P. Fule, J. Belnap – The persistence of native and cheatgrass dominated communities in a recently invaded Ponderosa Pine Forest |
| 11:20–11:40 AM    | MELISSA SAVAGE, J. Mast, J. Feddema – Post-fire recovery of Ponderosa Pine forest during drought   |
| 11:40 AM–12:00 PM | DANIEL LAUGHLIN – Long-term changes in structure, composition and function in a ponderosa pine forest ecosystem  |
| 12:00–12:20 PM    | LAUREN MORK, T. Sisk, E. Aumack, J. Heyneman – Livestock grazing following wildfire: understory community response in an upland ponderosa pine forest                  |
| 12:20–1:30 PM     | Lunch  |

## Tuesday, October 6, 2009—Afternoon Sessions

### Conserving Connectivity in Changing Landscapes

#### Part II: Putting connectivity on the statewide or regional map

Location: Humphreys

Moderators: Allison Jones, Wild Utah Project

|              |  |
|--------------|--|
| 1:30–1:50 PM | BRAD MCRAE – Washington Wildlife Habitat Connectivity Working Group: Washington’s approach to identifying opportunities to conserve connectivity at multiple scales          |
| 1:50–2:10 PM | WAYNE SPENCER, K. Penrod – Statewide connectivity mapping in California: from expert arrows (2000) to modeled surfaces (2010)  |
| 2:10–2:30 PM | BRUCE EILERTS, J. Mikolajczyk, S. Nordhaugen, S. Reif – Conserving critical wild life habitats and corridors in Arizona: the Arizona wildlife linkages assessment and beyond |
| 2:30–2:50 PM | TOM HOCTOR, M. Carr P. Zwick – Identifying and protecting connectivity in Florida and Southeastern United States   |
| 2:50–3:10 PM | PAUL EAGLES, E. Mayfarth, O’ Hara, G. Whitelaw – Moving from landscape connectivity theory to land use planning practice: the city of Oakville                               |
| 3:10–3:30 PM | Part II Discussion   |
| 3:30–3:50 PM | Break  |

### Collaborative Cultural Resource Management: Museum of Northern Arizona and Grand Canyon National Park Investigations Along the Colorado River

Location: Doyle

Moderator: Ted Neff, Museum of Northern Arizona

|              |  |
|--------------|--|
| 1:30–1:50 PM | TED NEFF – Introductory remarks  |
| 1:50–2:10 PM | JANET BALSOM, L. Leap, J. Dierker – Preservation and public archaeology: Grand Canyon National Park’s Colorado River archaeological project  |
| 2:10–2:30 PM | JIM COLLETTE – Shinarump becomes you: the evolving ceramics in Grand Canyon prehistory   |
| 2:30–2:50 PM | ELLEN BRENNAN, I. Hough – Pre-Colombian architecture of the East Grand Canyon River Corridor: patterning, settlement evidence, and culture   |
| 2:50–3:10 PM | JASON NEZ – Looking up: a Native American archaeologist’s perspective on archaeology in Grand Canyon   |
| 3:10–3:30 PM | KRISTIN BROWN, K. Anderson, T. Neff – 3D visualizations and animations of archaeological sites along the Colorado River offer valuable insight to researchers, managers, and to the public |
| 3:30–3:50 PM | Break  |

## **Tuesday, October 6, 2009—Afternoon Sessions (cont.)**

### **Happy 10th Birthday to the Cooperative Ecosystem Studies Units: Where Will the Next Decade Take Us?**

Location: Fremont

Moderator: Kathy Tonnessen, NPS, RM-CESU

|              |  |
|--------------|--|
| 1:30–1:40 PM | Introductory remarks   |
| 1:40–2:00 PM | PERRY BROWN – Evolution of the CESU Network: 10 years of success   |
| 2:00–2:10 PM | TOM FISH – The way forward with the CESU Network: new collaborations and new directions  |
| 2:10–2:30 PM | RON D. HIEBERT – The Colorado Plateau CESU: seeing it from both sides of the fence   |
| 2:30–2:50 PM | BEN BALDWIN, B. Bobowski, J. Visty – Internships across the Intermountain West: training students to be our next generation of resource managers through the CESU's  |
| 2:50–3:10 PM | TRINKLE JONES, P. O'Brien, cultural resource expert (To be determined)– The role of the CESU's of the National Park Service, Intermountain Region in getting support for cultural resource managers in our parks |
| 3:10–3:30 PM | KATHY TONNESSEN, P. Brown, T. Fish – How CESUs can advance climate change science and assist managers with adaptation, mitigation and education about the effects on resources                                   |
| 3:30–3:50 PM | Break  |

### **Large-Scale Conservation I**

Location: Rees

Moderator: To be determined

|              |  |
|--------------|--|
| 1:30–1:50 PM | DONALD LIPSCOMB, R. Baldwin, J. Levine – A North American protected areas database for continental-scale conservation planning |
| 1:50–2:10 PM | ROBERT BALDWIN, D. Lipscomb – One third of North American protected areas have greater human impact inside than outside        |
| 2:10–2:30 PM | MARIETTA EATON, H. Aarons – The National Landscape conservation system and collaborative concepts for the Colorado Plateau     |
| 2:30–2:50 PM | WALTER FERTIG, L. Whitham – Knowing the cogs and the wheels: the utility of bio-blitzes for conservation                       |
| 2:50–3:10 PM | LAWRENCE STEVENS – Rare or precinctive macroinvertebrates in the Grand Canyon ecoregion, Southwestern USA                      |
| 3:10–3:30 PM | KAREN ROOT – A multispecies approach for conserving rare and vulnerable species across many scales in the oak openings region  |
| 3:30–3:50 PM | Break  |

## **Tuesday, October 6, 2009—Afternoon Sessions (cont.)**

### **Conserving Connectivity in Changing Landscapes**

#### **Part III: Implementing linkage design**

Location: Humphreys

Moderators: Allison Jones, Wild Utah Project

|              |  |
|--------------|--|
| 3:50–4:10 PM | JOEL BERGER – What does it take to conserve a migration corridor?  |
| 4:10–4:30 PM | JEFF JENNESS, P. Beier – Making good compromises in implementing wildlife linkage designs  |
| 4:30–4:50 PM | RAY SCHWEINSBURG, J. Gagnon – Implementation of wildlife corridor designs in Arizona   |
| 4:50–5:10 PM | SHERRY RUTHER – Implementation of linkage design at the local level: Arroyo Grande as state of the art   |
| 5:10–5:30 PM | GRAHAM WHITELOW, P. Eagles – The role of conservation biology in the establishment of a natural heritage system for the Oak Ridges Moraine, Ontario Canada |
| 5:30–5:50 PM | KRISTEN PENROD - Five years of success and challenges in implementing linkage designs in Southern California   |
| 5:50–6:10 PM | Part III Discussion  |

### **Collaborative Cultural Resource Management: Museum of Northern Arizona and Grand Canyon National Park Investigations Along the Colorado River (cont.)**

Location: Doyle

Moderator: Ted Neff, Museum of Northern Arizona

|              |  |
|--------------|--|
| 3:50–4:10 PM | KIRK ANDERSON, T. Neff – Applying geomorphic studies to understanding past human adaptation in Grand Canyon National Park  |
| 4:10–4:30 PM | DAWN KISH – Dawn Kish Photography: Documenting new excavations along the Colorado River corridor for the Museum of Northern Arizona and Grand Canyon National Park |
| 4:30–4:50 PM | MARY JANE WRIGHT – Micro and macro paleoethnobotany in the Grand Canyon River corridor: the Palasides Site   |
| 4:50–5:10 PM | DON KELLER – Excavation of structure 4, arroyo 5, at the Furnace Flats Site  |
| 5:10–5:30 PM | KIMBERLY SPURR – The Furnace Flats Site as viewed from arroyo 6 excavations  |
| 5:30–5:50 PM | TED NEFF, K. Anderson, K. Brown – Axehandle Alcove: a well-stratified record of Holocene human occupation and Colorado River flooding                              |
| 5:50–6:10 PM | TOM BARTELS – Digital media for public outreach and education: recent archaeology in Grand Canyon National Park  |

## **Tuesday, October 6, 2009—Afternoon Sessions (cont.)**

### **Integrating Science into Public Process and Water Resource Decisionmaking: Process and Progress of the Delores River Dialogue**

Location: Fremont

Moderator: Carolyn Dunmire, Dolores River Dialogue Member

|              |   |
|--------------|---|
| 3:50–4:00 PM | CAROLYN DUNMIRE – Introductory remarks  |
| 4:00–4:20 PM | MICHAEL PRESTON, C. Wanner – Formation of the Delores River Dialogue and creating the plan to proceed           |
| 4:20–4:50 PM | JIM SISCOE, A. Oliver, D. Graf – Science and the Delores River Dialogue   |
| 4:50–5:20 PM | MARSHA PORTER-NORTON, C. Anderson, R. Carver – Integrating science and flow constraints into management actions |
| 5:20–5:50 PM | Discussion  |

### **Large-Scale Conservation II**

Location: Rees

Moderator: To be determined

|              |  |
|--------------|--|
| 3:50–4:10 PM | KAREN RICHARDSON – Harmonized data for North America: a tool to track change                                       |
| 4:10–4:30 PM | DAVID DAVIDSON – A transparent, elemental, and effective procedure for the evaluation of connectivity by corridors |
| 4:30–4:50 PM | RYAN PERKL, R. Baldwin – Comparing landscape networks at the ecoregion scale: can we expect corridor “umbrellas”?  |

## **Tuesday, October 6, 2009—Workshops and Meetings**

### **An Innovative Federal and Tribal Partnership: Kasha-Katuwe Tent Rocks National Monument, New Mexico (Workshop and Lunch)**

Location: Rees

Moderator: Edwin Singleton, Bureau of Land Management

|               |                           |
|---------------|---------------------------|
| 12:30–1:30 PM | EDWIN SINGLETON, F. Pecos |
|---------------|---------------------------|

### **Department of Defense Environmental Funding Programs: Conservation-Related Research in the Southwest and Future Funding Opportunities (Workshop and Lunch)**

Location: Kendrick, Drury Inn (Room 134)

Moderator: John Hall, SERDP/ESTCP

|               |           |
|---------------|-----------|
| 12:30–2:00 PM | JOHN HALL |
|---------------|-----------|

### **SCB Colorado Plateau Chapter Meeting**

Location: Beaver Street Brewery, 11 S. Beaver Street

Moderators: All members

|               |
|---------------|
| 12:30–2:00 PM |
|---------------|



## Tuesday, October 6, 2009—Poster Session

Time: 7:00–9:30 pm

Location: High Country Conference Center Lobby

Moderator: Charles Drost, U.S. Geological Survey

1. SCOTT ABELLA – Managing Gambel oak in ponderosa pine forests: the status of knowledge
2. CHRISTINE ALBANO, L. Makarick, J. Nielsen, T. Carlson, C. Tate, K. Watters, T. Walton – The Colorado Plateau initiative: pro-actively addressing the need for a collaborative approach to riparian restoration on the Colorado Plateau in light of the rapid expansion of the tamarisk beetle, *diorhabda elongate*
3. CHRISTINE ARMIGER, P. Palmiotto, D. Smith – Measuring ecosystem services on agricultural land to evaluate the ecological impacts of various farming methods and farm extension programs
4. ZACHARY BISCHOFF-MATTSON, D. Mattson – Effects of simulated mountain lion caching on prey-like carcasses
5. MARK BRUSON – A behavior-based model of ecological change in coupled human-natural systems: the case of invasive plants in the U.S. Southwest
6. KATIE CARR, M. Lee – If you preserve it, they will come: an in depth look at visitors to El Morro National Monument
7. CHRIS ERICKSON, K. Waring – Landscape-scale old Ponderosa Pine mortality at Mt. Trumbull, Northern Arizona
8. JAMES FOWLER, C. Hull Seig – Population ecology of two alpine endemics: *Packera franciscana* and *Erigeron mancus*
9. JOSEPH GANEY, S. Vojta – Trends in snag populations in northern Arizona mixed-conifer and Ponderosa Pine forests
10. JOSEPH GANEY, S. Vojta – Amounts and types of coarse woody debris in northern Arizona mixed-conifer and Ponderosa Pine forests
11. BRENT CARL HETZLER – Using lightweight sound recorders to supplement Mexican Spotted Owl research
12. ANNA HIGGINS, A. Thode, K. Waring, E. Gdula, W. Bunn – Mixed conifer regeneration following fires of mixed severities of the past twenty years in Grand Canyon National Park
13. JENNIFER HOLMES, M. Johnson – Habitat-based bird community monitoring in National Parks of the southern Colorado Plateau network: monitoring design and uses
14. HILLARY HUDSON, S. Sesnie, B. Dickson, R. Hiebert, and L. Thomas – Applying landstat TM satellite imagery to detection and management of invasive exotic species across jurisdictional boundaries in and around Walnut Canyon National Monument
15. ELIZIBETH KALIES, C. Chambers, W. Covington – Meta analysis indicates thinning and burning treatments have positive effects on wildlife densities in southwestern conifer forests
16. JULIE KORB, E. Lehmer – Sudden aspen decline in Southwest Colorado: establishing a long-term monitoring research program
17. REBECCA LIEBERG, M. Miller, R. Mann, C. Decker, K. Davidson – Propagation of the endangered shivwits milk-vetch (*Astragalus ampullarioides*), Washington County, Utah
18. STEPHEN MONROE, C. Albano, K. Watters, S. Rice, D. Burger – A collaborative inventory of springs in the Grand Canyon region
19. SHAWN NEWELL, M. Boyle, K. English, J. Nielsen, T. Walton – Restoring rivers and building a restoration workforce: a USDI National Park Service, ecological monitoring and assessment program, and Working for Rivers partnership

20. JAMIE NOGLE, A. DeWoody – Predicting and monitoring traffic induced vertebrate mortality near wetlands
21. SUZANNE OWEN, C. Hull Sieg, C. Gehring – Effectiveness of shrub seeding and herbicide application in restoring cheatgrass-invaded burned areas
22. LOUIS PECH, T. Graham – Beetle diversity of three management zones in Salt Creek Canyon, Canyonlands National Park, UT
23. STEPHEN PITTS, R. Neilson, B. Rogers, M. McGlinchy, J. Lenihan, R. Drapek, J. Wells – Climate impacts on the Colorado Plateau: (II) Complexities emerge through high-resolution simulations
24. KARISSA RAMSTEAD, J. Allen – Preliminary results of a systematic review of wet meadow restoration
25. STEVEN SESNIE, B. Dickson, J. Rundall, T. Sisk – Assessment of mixed conifer forest conditions, North Kaibab Ranger District, Arizona USA
26. KENNETH STELLA, C. Hull Sieg, P. Fule – Minimal effectiveness of seeding following three high-severity wildfires
27. CAMILLE STEVENS-RUMANN – Post-fire fuel loading on two 2000 wildfires
28. K.A. THOMAS, J.F. Weltzin, A. Miller-Rushing, T. Crimmins – Phenology in the Southwest
29. TRAVIS WIGGINS – Volunteer stewardship: a critical component of collaborative conservation networks

## Free Showing of the Documentary “11th Hour”

Time: 8:00–10:00 PM

Location: Prochnow Auditorium, Northern Arizona University

30 minute question and answer session with expert panel immediately following the film

## Wednesday, October 7, 2009—Morning Sessions

### Climate Change and Its Impacts I

Location: Humphreys

Moderator: To be determined

|               |  |
|---------------|--|
| 8:00–8:10 AM  | Introductory remarks   |
| 8:10–8:30 AM  | STEPHANIE McAFEE, J. Russell – Evaluating precipitation projections for the Southwestern United States   |
| 8:30–8:50 AM  | ZHUOTING WU, G. Kock, P. Dijkstral, B. Hungate – Ecosystem carbon balance under climate manipulations along an elevation gradient  |
| 8:50–9:10 AM  | RONALD NEILSON, S. Pitts, B. Rogers, M. McGlinchy, J. Lenihan, R. Drapek, J. Wells – Climate impacts on the Colorado Plateau: (I) A nested scale experiment                    |
| 9:10–9:30 AM  | JOSHUA MILLER – Testing recent surficial mammalian bone assemblages as sources of high-quality historical community data: a new resource for conservation and management       |
| 9:30–9:50 AM  | KENNETH COLE, K. Ironside, J. Eischeld, G. Garfin, P. Duffy, C. Toney – Using past and ongoing vegetation and climate change to model the future: an example using Joshua Tree |
| 9:50–10:30 AM | Break  |

## **Wednesday, October 7, 2009—Morning Sessions (cont.)**

### **Ungulates and Predators in National Parks: What Can We Learn by Comparing Notes Across Bioregions?**

Location: Doyle

Moderator: Ron Hiebert, Northern Arizona University

|               |  |
|---------------|--|
| 8:00–8:10 AM  | Introductory remarks   |
| 8:10–8:30 AM  | DAVID MATTSON – No park is an island: mountain lions on the southern Colorado Plateau  |
| 8:30–8:50 AM  | HILARY COOLEY – Recent investigations into the effects of hunting on mountain lions in Western states                                  |
| 8:50–9:10 AM  | BRANDON HOLTON, D. Mattson – Free water selection by large vertebrates: implications for wildlife management                           |
| 9:10–9:30 AM  | THERESE JOHNSON, J. Mack, B. Bobowski – Managing elk in the absence of an intact ecosystem: challenges in Rocky Mountain National Park |
| 9:30–9:50 AM  | JESSICA GIST – Managing predators across boundaries: lessons from the Mexican Wolf introduction  |
| 9:50–10:30 AM | Break  |

### **The Role of Plant Materials in the Development of Native Plant Materials for the Colorado Plateau**

Location: Fremont

Moderator: Wayne Padgett, Bureau of Land Management

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|----------------|--|
| 8:00–8:30 AM   | WAYNE PADGETT – BLM and US Forest Service policies and efforts to increase the availability native plant materials for restoration efforts on the Colorado Plateau: Colorado Plateau Native Plan Initiative (CPNPI) Five-Year Strategy |
| 8:30–8:50 AM   | DAVID DREESEN – Planting methods for the Colorado Plateau and other arid areas   |
| 8:50–9:10 AM   | JAMES CANE – Pollination, pollinators, and promise for forb seed farming and sustainable rehabilitation  |
| 9:10–9:30 AM   | BOB HAMMON – Managing some unique pests of mountain brome and blue wild rye  |
| 9:30–9:50 AM   | ANDREA KRAMER, J. Fant – The role of reproductive ecology and conservation genetics of plant species on ecosystem restoration  |
| 9:50–10:10 AM  | VERLIN SMITH – Strategies for natural resource management under changing climates: the role of science   |
| 10:10–10:30 AM | Break  |

## Wednesday, October 7, 2009—Morning Sessions (cont.)

### Collaborative Herpetofauna Research in the Desert Southwest and Its Riparian Areas

Location: Rees

Moderator: Erika Nowak, U.S. Geological Survey, Northern Arizona University

|               |  |
|---------------|--|
| 8:00–8:10 AM  | ERIKA NOWAK – Introductory remarks   |
| 8:10–8:30 AM  | SUSAN R. MacVEAN, S. Hedwall, C. Drost – Establishment of a Northern leopard frog refuge population in northern Arizona  |
| 8:30–8:50 AM  | CHARLES A. DROST, Jeffrey E. Lovich – Population decline of Sonora mud turtle ( <i>Knosternon sonoriense</i> ) at Montezuma Well, Arizona  |
| 8:50–9:10 AM  | JEFFREY LOVICH, S. Madrak, C. Drost, A. Monatesti, D. Casper, M. Znari – Reproductive ecology of female Sonora mud turtles ( <i>Kinosternon sonoriense</i> ) at Montezuma Well, Arizona: optimal egg size in a suboptimal environment? |
| 9:10–9:30 AM  | CLAIRE CROW – Status and stewardship of desert tortoises in Springdale, Utah   |
| 9:30–9:50 AM  | VALERIE BOYARSKI – Tracking the persistence of Northern Mexican gatersnakes ( <i>Thamnophis eques megalops</i> ) in the presence of nonnative predators in a high modified system in Arizona   |
| 9:50–10:10 AM | CALEB LOUGHRAN, E. Eddy – Documenting herpetofauna of the Colorado Plateau as a conservation effort  |

### Climate Change and Its Impacts - II

Location: Humphreys

Moderator: To be determined

|                |   |
|----------------|---|
| 10:30–10:50 AM | JAMES CATLIN – Responding to climate change, range management that promotes resilient habitat   |
| 10:50–11:10 AM | LARISSA SOMMER – Climate change impacts on rural Alaska's natural resource harvesting practices   |
| 11:10–11:30 AM | JACOB GIBSON, T. Edwards, G. Moisen – Forecasting climate-induced distribution shifts for the pinon-juniper complex of the Western United States  |
| 11:30–11:50 AM | NICHOLE BARGER, C. Woodhouse – Impacts of changing climate on Pinon Pine ( <i>Pinus edulis</i> ) growth in Southwestern Utah  |
| 11:50–12:10 AM | DOMINICK DELLASALA, M. Koopman, R. Nauman, B. Barr, C. Deacon Williams, R. Hamilton, B. Doppelt – Preparing for climate change by bringing multiple interests together to design preparation strategies in Oregon and California basins |

## **Wednesday, October 7, 2009—Morning Sessions (cont.)**

### **Future Directions for Regional Conservation Planning in the Western United States: Lessons from the Northwest Forest Plan**

Location: Doyle

Moderator: Carlos Carroll, Klamath Center for Conservation Research

|                   |  |
|-------------------|--|
| 10:30–10:50 AM    | CARLOS CARROLL – Conservation implications of coarse-scale versus fine-scale management of forest ecosystems: are reserves still relevant? |
| 10:50–11:10 AM    | DOMINICK DELLASALA – Northwest forest planning under climate change adaptation strategies: global model or stuck in the past?              |
| 11:10–11:30 AM    | ERIC FORSMAN, R. Anthony, K. Dugger, E. Glenn, A. Franklin – Populations status of Northern Spotted Owls                                   |
| 11:30–11:50 AM    | CHRISTOPHER A. FRISSELL – Future directions for conservation of aquatic species and ecosystems   |
| 11:50 AM–12:10 PM | CHAD HANSON, D. Odion, D. Dellasala, W. Baker – Overestimation of fire risk in Northern Spotted Owl Recovery Plan                          |
| 12:10–12:30 PM    | REED F. NOSS – The Northwest Forest Plan and current directions in conservation planning   |

### **Understanding the Human Dimensions of Sustainability and Landscape-Level Conservation**

Location: Fremont

Moderator: David C. Fulton, U.S. Geological Survey, University of Minnesota

|                   |   |
|-------------------|---|
| 10:30–10:50 AM    | MICHAEL J. MANFREDO – Societal thought and sustainability   |
| 10:50–11:10 AM    | MAE DAVENPORT, D. Anderson – Understanding the role of community in conservation: examples from watershed management  |
| 11:10–11:30 AM    | TARA TEEL, M. Manfredo – Understanding human-wildlife conflicts near urban centers in the Western United States   |
| 11:30–11:50 AM    | ERIK NIELSEN, T. Sisk, J. Rundall, S. Sesnie, B. Dickson – Transition to collaboration: agency perspectives of collaborative forest restoration efforts on the Kaibab National Forest |
| 11:50 AM–12:10 PM | NATALIE SEXTON, L. Koontz – Understanding the role of visitor management and conservation planning of USFWS refuges to promote a conservation network system                          |
| 12:10–12:30 PM    | DAVID C. FULTON, S. Schroeder, E. Rudberg – Factors influencing conservation of privately owned lakescapes  |

## Wednesday, October 7, 2009—Morning Sessions (cont.)

### Extreme Weather(ing) : Measuring, Modeling, and Predicting Change at Colorado Plateau Cultural Sites

Location: Rees

Moderator: Frank Matero, University of Pennsylvania

|                   |   |
|-------------------|---|
| 10:30–10:50 AM    | FRANK MATERO – Introductory remarks   |
| 10:50–11:10 AM    | RACHAEL ADLER, M. Henry, F. Matero – An environmental monitoring program for Spruce Tree House Alcove Mesa Verde National Park  |
| 11:10–11:30 AM    | TARYN D'AMBROGI, R. Mason – A cultural landscape study and site management recommendations for Inscription Trail Loop, El Morro National Monument   |
| 11:30–11:50 AM    | HELEN FAIRLEY, B. Collins, A. Draut, G. O'Brien, J. Pederson, H. Sondossi – Monitoring archaeological site condition within an ecological framework: an example from the Colorado River Corridor in Grand Canyon National Park, Arizona |
| 11:50 AM–12:10 PM | JESSICA KOTTKE, J. Hinchman, F. Matero – An investigation of quantifying and monitoring stone surface deterioration using three dimensional laser scanning for heritage sites   |
| 12:10–12:30 PM    | ALEX LIM, F. Matero, M. Henry – Soft vegetative capping of archaeological masonry walls at Mesa Verde National Park   |

## Wednesday, October 7, 2009—Afternoon Sessions

### Ecology of Mammals and Birds

Location: Humphreys

Moderator: To be determined

|              |  |
|--------------|--|
| 2:00–2:10 PM | Introductory remarks   |
| 2:10–2:30 PM | ELLEN CHENG, L. Scott Mills, K. Hodges - Spatial synchrony in snowshoe hares: patterns, processes, and who cares?  |
| 2:30–2:50 PM | ELISABETH MERING, C. Chambers - Bat activity increases during summer in ponderosa pine forests in northern Arizona   |
| 2:50–3:10 PM | PHILIP HEDRICK – Conservation genetics and North American bison  |
| 3:10–3:30 PM | KATIE STUMPF – Predicting the probability of predation of parasitism on passerine nests in riparian habitats: a literature review  |
| 3:30–3:50 PM | SARA BOMBACI, J. Korb – The effects of sudden aspen decline on avian biodiversity in Southwest Colorado  |
| 3:50–4:10 PM | KENNETH ETZEL, T. Theimer, M. Johnson, J. Holmes– Potential impact of an exotic species on the nesting diet of common black hawks ( <i>Buteogallus anthracinus</i> ) in the Verde River drainage, Central, Arizona |
| 4:10–4:30 PM | EBEN PAXTON, M. Sogge, T. Theimer, P. Keim – Where should we place the Northern boundary of the Southwestern willow flycatcher   |
| 4:30–4:50 PM | SULLIVAN, KATHY, R. Sieg, Chris Parish – Update on voluntary lead reduction efforts within the northern Arizona and southern Utah range of the California Condor   |

## Wednesday, October 7, 2009—Afternoon Sessions (cont.)

### Application of Threshold Concepts to Management Decisionmaking

Location: Doyle

Moderator: Mark E. Miller, U.S. Geological Survey, Grand Staircase-Escalante National Monument

|              |   |
|--------------|---|
| 2:00–2:10 PM | Introductory remarks  |
| 2:10–2:30 PM | STEVEN L. GARMAN, C. Lauver – Threshold concepts: their relevance to monitoring and management of natural resources   |
| 2:30–2:50 PM | BRANDON T. BESTELMEYER, D. Goolsby, S. Archer – Spatial patterns in alternative states and thresholds: a missing link for management of landscapes?                   |
| 2:50–3:10 PM | MARK E. MILLER – Syndromes of dryland degradation and examples of spatial dependence in relation to soil properties and landscape setting                             |
| 3:10–3:30 PM | R. TRAVIS BELOTE, M. Miller – Quantifying patterns and using process models to detect potential ecological thresholds in semi-arid grasslands of the Colorado Plateau |
| 3:30–3:50 PM | JOHN SPENCE – How can ecological modeling and threshold concepts improve resource management decisions at Glen Canyon National Recreation Area?                       |
| 3:50–4:10 PM | BARRY BAKER – Climate change and thresholds: managing for more than changes in mean temperature and precipitation   |
| 4:10–4:30 PM | DAVID MATTSON – The social-psychology of dominant frames: “thresholds” in natural resources management  |
| 4:30–4:50 PM | Panel discussion/questions  |

### Knowledge and Ways of Knowing: Is Science Knowledge the Only Paradigm for Resource Management Decisionmaking?

LOCATION: Fremont

Moderator: Judith J. Bischoff, Colorado Plateau Cooperative Ecosystem Studies Unit, Northern Arizona University

|              |   |
|--------------|---|
| 2:00–2:10 PM | JUDY BISCHOFF – Introductory remarks  |
| 2:10–2:30 PM | DAVID MATTSON – We talk about science and traditional knowledge, but are we not really talking about human dignity?   |
| 2:30–2:50 PM | LISA THOMAS – The art of science communication  |
| 2:50–3:10 PM | MICHAH LOMA'OMVAYA – Traditional ecological knowledge: a Hopi perspective   |
| 3:10–3:30 PM | THOMAS D. SISK – Some thoughts on western science and traditional knowledge: braiding understanding for sustainable land and resource management  |
| 3:30–3:50 PM | DONNA HOUSE – A Navajo perspective of traditional ecological knowledge  |
| 3:50–4:10 PM | DAVID RUPPERT – Traditional knowledge, cultural preservation, and ecological restoration: park science in a new light   |
| 4:10–4:30 PM | MORAN HENN, D. Ostergren – Incorporation of traditional ecological knowledge within the National Park Service: a look at the Western United States with an emphasis on the Colorado Plateau |

## **Wednesday, October 7, 2009—Workshops and Meetings**

### **Student Mixer: Advice for Entering the Job Market (Workshop and Lunch)**

Time: 12:30–2:00 PM

Location: Front lawn of North Main, Northern Arizona University campus

### **Towards a Regional Vegetation Database (Workshop)**

Location: Rees

Moderator: Mike Kearsley, Grand Canyon National Park, Division of Science and Resource Management

2:00–4:50 PM

MIKE KEARSLEY, LORI MAKARICK, LISA THOMAS, PETE FULE, NEIL COBB, ETHAN AUMACK, DANIELLA ROTH, BARB RALSTON, GLENN BENNETT

### **SCB North American Section Meeting**

Time: 12:30–2:00 PM

Location: Kendrick, Drury Inn (Room 134)

### **SCB North American Board of Directors Meeting**

Time: 2:30–4:00 PM

Location: Kendrick, Drury Inn (Room 134)

## **Wednesday, October 7, 2009—Evening**

### **Plated Dinner**

Date: 7:00–9:30 PM

Location: High Country Conference Center



## Thursday, October 8, 2009—Morning Sessions

### Infectious Disease and Conservation in North America

Location: Humphreys

Moderator: Jeff Foster, Center for Microbial Genetics & Genomics, Northern Arizona University

|              |  |
|--------------|--|
| 8:00–8:10 AM | JEFF FOSTER – Introductory remarks   |
| 8:10–8:30 AM | JEFF FOSTER, P. Keim – Infectious disease and conservation: challenges and insights for the 21 <sup>st</sup> century                   |
| 8:30–8:50 AM | DAVID BLEHART, J. Lorch, A. Ballmann, B. Berlowski-Zier, C. Meteyer – White-nose syndrome: an emerging fungal pathogen                 |
| 8:50–9:10 AM | PAUL CROSS, W. Edwards, B. Scurlock – Disease in the New West: hierarchical mapping of brucellosis increases in Wyoming elk            |
| 9:10–9:30 AM | MARM KILPATRICK, P. Daszak, P. Marra, L. Kramer – West Nile virus across ecology and impacts in North America                          |
| 9:30–9:50 AM | LAURIE RICHARDSON, L. Kaczmarek, A. Miller – Black band disease of corals: pathobiology and considerations for coral reef conservation |

## Thursday, October 8, 2009—Morning Sessions (cont.)

### Ecology and Conservation of the US-Mexico Borderlands Region

Location: Doyle

Moderator: MATT SKROCH, University of Arizona, and ANA DAVIDSON, Instituto de Ecología, Universidad Nacional Autónoma de México, University of Arizona

|              |   |
|--------------|---|
| 8:00–8:10 AM | GERARDO CEBALLOS – Introductory remarks   |
| 8:10–8:30 AM | DINAH BEAR – Walling off wildlife: how did this happen and what's next?   |
| 8:30–8:50 AM | MATT CLARK – Borderlands RAVE multimedia presentation: photo journal of the border wall   |
| 8:50–9:10 AM | RURIK LIST – Endangered species and protected areas along the US-Mexico border  |
| 9:10–9:30 AM | DALE TURNER, G. Bodner – Conservation planning and practice along the US-Mexico border  |
| 9:30–9:50 AM | ANA DAVIDSON, S. Brantley, J. Brown, J. Cruzado, E. Fredrickson, D. Lightfoot, R. List, P. Manzano-Fischer, E. Ponce, J. Pacheco, G. Santos, R. Sierra, G. Ceballos – The Janos grassland ecosystem: 20 years of synthesis and experimental research revealing new insights for conservation and management |

## Thursday, October 8, 2009—Morning Sessions (cont.)

### Collaborative Management and Natural Systems I

Location: Fremont

Moderator: To be determined

|              |   |
|--------------|---|
| 8:00–8:10 AM | Introductory remarks  |
| 8:10–8:30 AM | AVI HENN, D. Ostergren – San Juan River Basin River, stream and riparian restoration projects database  |
| 8:30–8:50 AM | TOSHA COMENDANT, J. Strittholt, B. Ward, P. Frost – Data basin: expanding access to conservation data, tools, and people  |
| 8:50–9:10 AM | CHRISTOPHER HOLCOMB – Co-management of North Rim Forests across a jurisdictional boundary: a case study   |
| 9:10–9:30 AM | JILL RUNDALL, T. Sisk, E. Nielsen, B. Dickson, S. Sesnie, A. Leonard, B. Higgins, C. Minor – Kaibab Forest health focus: supporting collaborative decisionmaking on ecological restoration and land management at multiple scales |
| 9:30–9:50 AM | YEON-SU KIM – The role of regional economics in restoring the Southwestern Ponderosa Pine ecosystems  |

### Infectious Disease and Conservation in North America (cont.)

Location: Humphreys

Moderator: Jeff Foster, Center for Microbial Genetics & Genomics, Northern Arizona University

|                   |   |
|-------------------|---|
| 10:20–10:40 AM    | DAVID RIZZO – Sudden oak death in coastal California forests: ecological impacts and conservation implications  |
| 10:40–11:00 AM    | JASON ROHR, T. Raffel, J. Romansic, N. Halstead – Elucidating the relationship between climate and global amphibian declines associated with chytridiomycosis |
| 11:00–11:20 AM    | TIM TINKER – Density-dependent diet diversification and individual differences in foraging behavior determine risk of disease exposure in Southern sea otters |
| 11:20–11:40 AM    | CHARLES van RIPER III, R. Fleischer – Conservation lessons for the Colorado Plateau from avian disease in Hawaii  |
| 11:40 AM–12:00 PM | DAVID WAGNER, K. Cobble, R. Colman, J. Busch, R. Van Andel – Plague in prairie dogs: is there a way forward?  |
| 12:00–12:20 PM    | Discussion  |

## Thursday, October 8, 2009—Morning Sessions (cont.)

### Ecology and Conservation of the US-Mexico Borderlands Region (cont.)

Location: Doyle

Moderator: MATT SKROCH, University of Arizona, and ANA DAVIDSON, Instituto de Ecología, Universidad Nacional Autónoma de México, University of Arizona

|                |   |
|----------------|---|
| 10:20–10:40 AM | MATT SKROCH – Biodiversity and conservation threats in the Madrean Archipelago of the US-Mexico borderlands |
| 10:40–11:00 AM | ED FREDRICKSON – Collaborative community conservation along the border                                      |
| 11:00–11:20 AM | Discussion  |

### Collaborative Management and Natural Systems II

Location: Fremont

Moderator: To be determined

|                   |   |
|-------------------|---|
| 10:20–10:40 AM    | DENVER HOSPODARSKY, M. Lee – A social marketing approach to managing resource theft at Petrified Forest National Park   |
| 10:40–11:00 AM    | KAREN FULLEN – NCRS' cooperative conservation efforts for Utah prairie dog: a network for conservation on private lands   |
| 11:00–11:20 AM    | JOSE BERNAL-STOOPEN, J. Packard, R. Reading – Binational collaboration in endangered species recovery: a framework for consensus analysis                         |
| 11:20–11:40 AM    | MELANIE LAWRENCE – In search of socio-ecological resilience: the importance of adaptively managing USFS grazing lands in the Southwest                            |
| 11:40 AM–12:00 PM | CARRIE CULTRA, T. Sisk, D. Widmark, N. Wallen – Collaborative land management and the monitoring of Southwest rangelands  |
| 12:20–12:40 PM    | DELA CRUZ, MICHELLE, K. Lyons, T. Johnstone – Restoring riparian ecology, history and tradition: Canyon de Chelly National Monument cooperative watershed project |
| 12:40–1:00 PM     | JACQUELINE VAUGHN, H. Cortner – Political lessons learned from wildfires: the case of San Diego County  |

## **Thursday, October 8, 2009—Workshops and Meetings**

### **Conservation Science Education through SCB Chapters (Workshop)**

Location: Rees

Moderators: Martin Main and Jessica Pratt, SCB-NA Education Chair

8:00 AM–12:20 PM

MARTIN MAIN, A. Neils, J. Pratt